

CRABGRASS AND TEFFGRASS

Background

Teff is a warm-season C₄ annual grass that originated in Africa with great potential for hay production in the South. It can be used as a summer rotation crop in fallow areas where only annual ryegrass is utilized as winter forage. Teff is characterized by a small seed (about 1.3 million seeds per pound), a large crown, and fine stems (which increase curing time when used for hay production). Its inflorescence is a loose or compact panicle. It is not recommended for grazing since it has a very shallow root system. Teff can fill a gap in summer forage production and make excellent hay for horses and livestock.

Crabgrass is a warm-season C₄ grass with long stolons and high reseeding ability. Crabgrass is very leafy with a tall ligule. Leaves are sparsely hairy, and the collar region has very long hairs. Seeds have three or more spikes. Crabgrass has been utilized in the South for forage production as pasture, hay, silage, and green chop. It is often considered a weedy grass species because of its invasive tendency, particularly into established warm-season, perennial pastures subject to heavy, close grazing. It can be double cropped with small grains or annual ryegrass during the cool season.

Protocol

The experimental design was a randomized complete block with four replications. Plots were 6 feet by 10 feet in size with 3-foot alleys between plots and blocks. Tests were planted May 31, 2018, in Poplarville, May 25, 2018,

in Starkville, May 30, 2018, in Prairie, and May 23, 2018, in Holly Springs using an ALMACO plot drill. Initial fertilizer application was 335 pounds per acre of 15-5-10 2 weeks after planting. Plots were harvested when more 50% of the plots had reached 40 inches of height. The entire plot was harvested using a Winterstieger Cibus S (Austria). Yields were recorded and subsamples collected for dry matter determination. Tables 10–14 present 2018 dry matter yields collected from Starkville. Data was analyzed using the General Linear Model (PROC GLM) of SAS and mean separation using the LSD at $\alpha = 0.05$.

Results

Teffgrass and crabgrass were harvested later than what would be considered ideal for forage production, allowing more dry matter accumulation and less chance of regrowth. Plots were well established at all locations. The two most northern locations, Holly Springs and Prairie, produced 58% and 99%, respectively, relative to the state average. Newton produced the greatest dry matter with 134% of the state average, while Starkville and Poplarville produced 103% and 105%, respectively, of the state average (4,465 pounds of dry matter per acre). Teffgrass averaged more dry matter production than crabgrass at Holly Springs, Starkville, and Newton, while Poplarville favored crabgrass production. Both species performed similarly at Newton.

Table 10. Crabgrass and teffgrass dry matter yields at Holly Springs, 2018.

Variety	Species	Harvest date 8/1/18
Red River	Crabgrass	1871
Quick-N-Big Spreader	Crabgrass	2582
CWTF	Teffgrass	2866
CW0604	Teffgrass	2807
NFCG07-1	Crabgrass	2717
IMRR	Crabgrass	2598
Dals big river	Crabgrass	2580
Mean		2574
CV%		19
LSD _{0.05}		NS ¹
¹ NS: Not Significant Soil Type: Grenada silt loam Planted: May 23, 2018 Fertilizer: 335 lb/A of 15-5-10 2 weeks after planting		

Table 11. Crabgrass and teffgrass dry matter yields at Prairie, 2018.

Variety	Species	Harvest date 8/2/18
Red River	Crabgrass	3692
Quick-N-Big Spreader	Crabgrass	4999
CWTF	Teffgrass	4217
CW0604	Teffgrass	4604
NFCG07-1	Crabgrass	4913
IMRR	Crabgrass	4389
Dals big river	Crabgrass	4367
Mean		4454
CV%		22
LSD _{0.05}		NS ¹
¹ NS: Not Significant Soil Type: Houston clay Planted: May 23, 2018 Fertilizer: 335 lb/A of 15-5-10 2 weeks after planting		

Table 12. Crabgrass and teffgrass dry matter yields at Starkville, 2018.

Variety	Species	Harvest date 7/10/18
		<i>lb/A</i>
Red River	Crabgrass	4660
Quick-N-Big Spreader	Crabgrass	4527
CWTF	Teffgrass	5459
CW0604	Teffgrass	5085
NFCG07-1	Crabgrass	3874
IMRR	Crabgrass	5166
Dals big river	Crabgrass	3356
Mean		4590
CV%		19
LSD _{0.05}		1351

Soil Type: Savannah fine sandy loam Planted: May 23, 2018
Fertilizer: 335 lb/A of 15-5-10 2 weeks after planting

Table 13. Crabgrass and teffgrass dry matter yields at Newton, 2018.

Variety	Species	Harvest date 7/24/18
		<i>lb/A</i>
Red River	Crabgrass	5995
Quick-N-Big Spreader	Crabgrass	5578
CWTF	Teffgrass	6856
CW0604	Teffgrass	6187
NFCG07-1	Crabgrass	5429
IMRR	Crabgrass	6682
Dals big river	Crabgrass	5340
Mean		6009
CV%		13
LSD _{0.05}		NS ¹

¹NS: Not Significant
Soil Type: Prentiss sandy loam Planted: May 23, 2018
Fertilizer: 335 lb/A of 15-5-10 2 weeks after planting

Table 14. Crabgrass and teffgrass dry matter yields at Poplarville, 2018.

Variety	Species	Harvest date 7/24/18
		<i>lb/A</i>
Red River	Crabgrass	5662
Quick-N-Big Spreader	Crabgrass	4444
CWTF	Teffgrass	4249
CW0604	Teffgrass	3556
NFCG07-1	Crabgrass	4933
IMRR	Crabgrass	4983
Dals big river	Crabgrass	5050
Mean		4697
CV%		22
LSD _{0.05}		NS ¹

¹NS: Not Significant
Soil Type: Basin loam Planted: May 23, 2018
Fertilizer: 335 lb/A of 15-5-10 2 weeks after planting